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CIRCULATION

ELEMENT

1988

CERTIFICATE OF ADOPTION

BY THE

CITY OF WASCO CITY COUNCIL

By Resolution No. 89-1165, the City of Wasco City Council adopts the herein contained Circulation Element 1988 to the City of Wasco General Plan, after receiving a recommendation thereon from the City of Wasco Planning Commission and conducting a public hearing duly advertised, pursuant to all statutory requirements of the State of California and all ordinance requirements of the City of Wasco.

Certified this 17th day of April, 1989.

Paul Neufeld
Mayor
City of Wasco

Rachel Rodriguez
City Clerk
Deputy

LEAD AGENCY

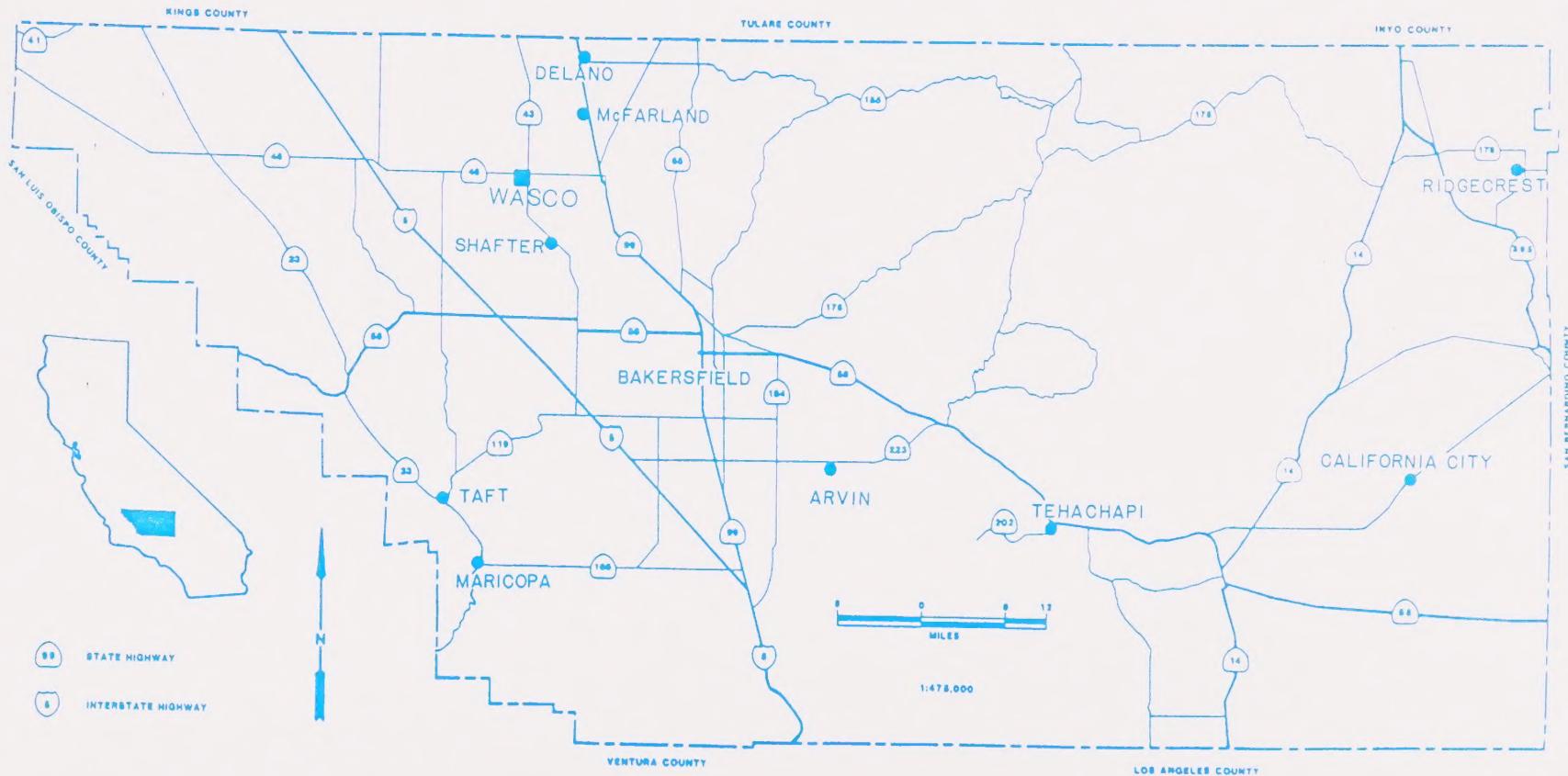
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1

Introduction

1.0 Purpose

The purpose of the Circulation Element of the General Plan is to provide guidance, by means of policies, programs and similar tools for the achievement of effective transportation and movement of people and property within the Wasco area.

The scope of the Circulation Element is defined in Section 65302(b) of the Government Code which specifies, in part, that the Element shall contain:

"A circulation element consisting of the general location and extent of existing and proposed major thoroughfares, transportation routes, terminals, and other local public utilities and facilities, all correlated with the land use element of the plan."

In addition, the Circulation Element should be coordinated with the policies and goals specified in the Noise, Scenic Highway and Safety Element.

This Circulation Element is based on the land use distribution as designed on the land use map of the Land Use Element.

Conditions
And
Trends

2

2.0 General

The conditions and trends described herein include an analysis of the existing system of streets and highways, transit needs, railroad operations, bicycle and pedestrian transportation facilities, airports, pipelines and parking. Land use trends and their relationship to circulation system demand are also analyzed.

2.1 Existing Street System

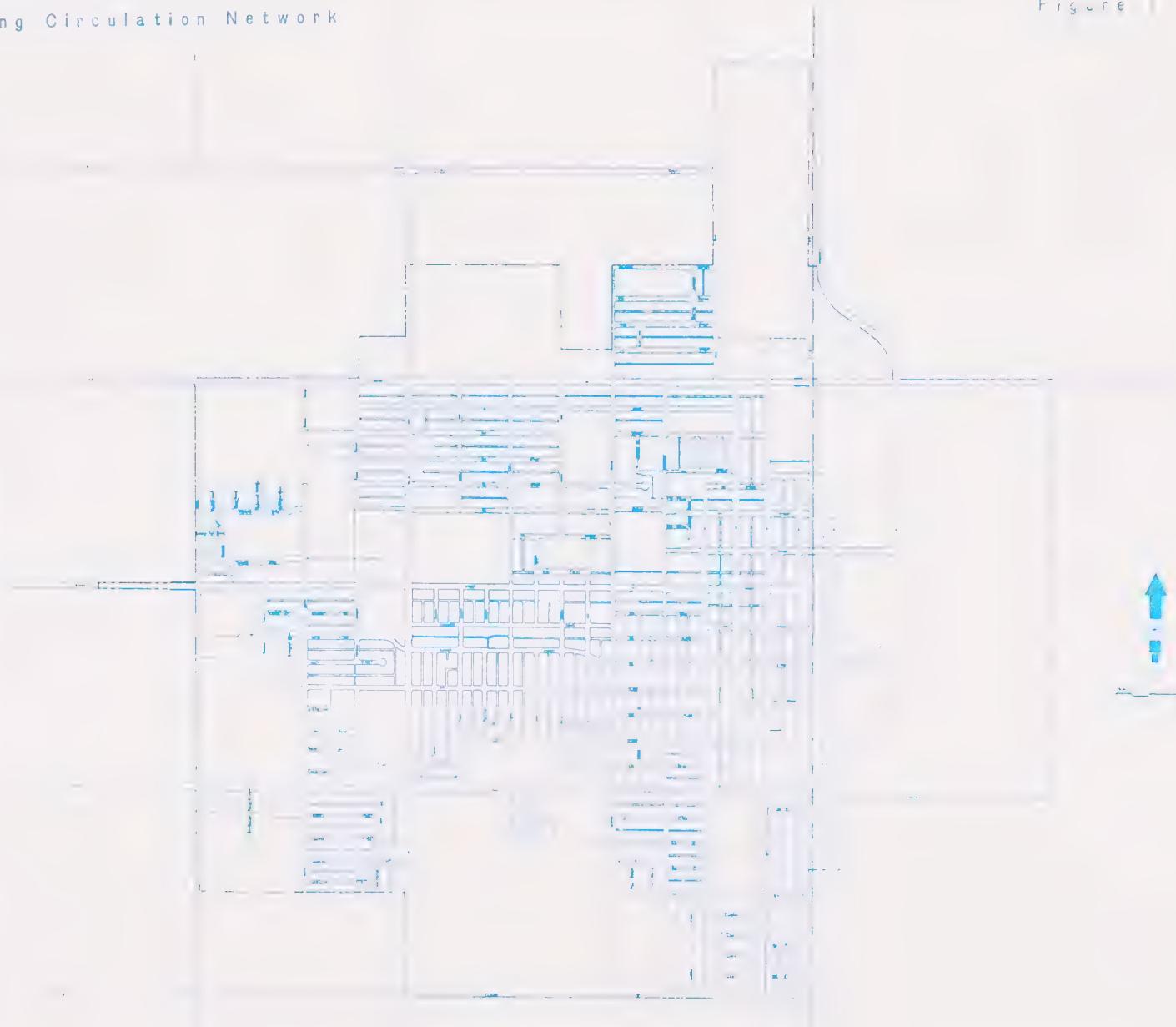
The existing network of streets, and the extent to which it is developed, is shown in Figure 1. The Street system is composed of a general pattern of State highway arterials, collectors and local streets, each of which provide varying degrees of direct access to abutting property.

Arterial and collector roads are used to provide safe and efficient movement between major employment destinations and residential neighborhoods. Arterial roads are generally located at one-mile intervals along section lines, while collector roads are located along mid-section lines. Because of their spacing and

CITY OF WASCO

Existing Circulation Network

Figure 1

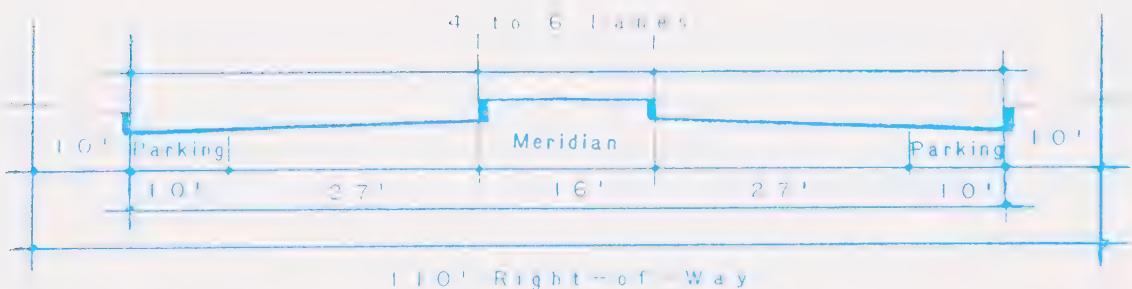


function, arterial and collector roads tend to define individual neighborhoods within the city.

Highways. Two State highways, Highway 43 and Highway 46, provide inter-city routes. Highway 43 runs north-south and Highway 46 runs east-west.

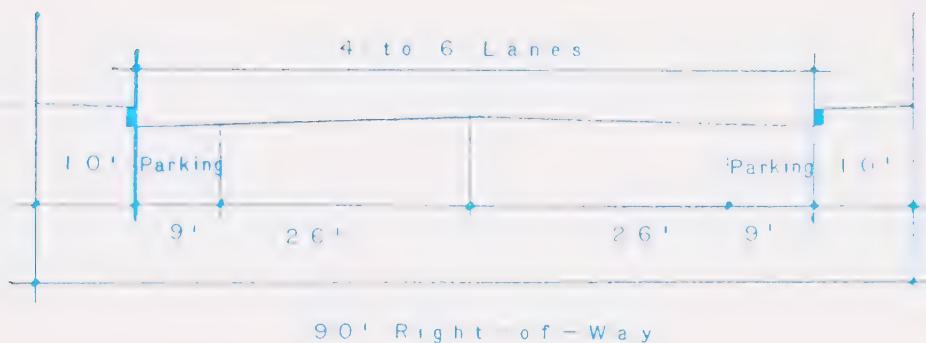
Arterials. The primary function of arterials is to provide efficient through- and cross-town traffic. Direct access to abutting property is minimized, where possible, to maintain free movement of potentially high traffic volumes. The development standard of a cross section of a typical arterial roadway is shown in Figure 2; however certain aesthetic or traffic requirements could require the usage of other standards in order to accommodate those needs.

FIGURE 2
ARTERIAL STREET



Collectors. Collector streets provide the traffic movement between arterials and local streets, carrying a large share of the intra-city traffic. They also provide the primary link between different neighborhoods and to the downtown area. In addition, collectors may serve as truck routes, especially for the delivery and pick-up of goods where arterials do not abut that land use. Collectors in Wasco typically have a design capacity in excess of 13,000 ADT. A typical collector cross-section is illustrated in Figure 3, however certain situations may exist which could require the use of other standards in order to accommodate aesthetic or traffic requirements.

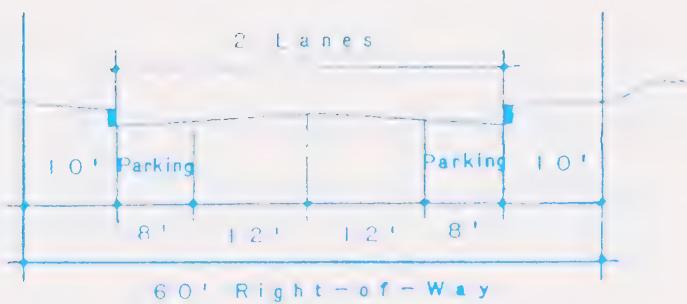
FIGURE 3
COLLECTOR STREET



Local Streets.

The primary function of local streets is to provide access to collector streets from abutting lands. They are designed to minimize through traffic movements, typically terminating at their intersection with collectors and frequently curved or terminated in cul-de-sacs. Local streets may have capacities equal to that of collectors but are only recommended to have volumes of 1,500 ADT to ensure pedestrian and bicyclist safety. Most traffic volumes are less than 1,000 ADT. A typical local street cross section is shown in Figure 4; however, certain aesthetic or traffic situations may exist which could require the usage of other streets standards.

FIGURE 4
LOCAL STREET



2.2 Accidents

One of the most important indicators of the efficiency of the street network system is the frequency of accidents. Figure 5 shows the location of all accidents for the fiscal 1986-87 year. It shows that accidents were concentrated in the downtown area and at the intersection of major arterials, especially on the periphery of the developed portion of the community.

2.3 Transit and Rapid Transit

An analysis of the number of mobility-limited persons in the Wasco area shows that approximately 500 persons or 4 percent of the community are considered mobility-limited. This figure includes only those who are either physically or mentally disabled, but not those who are financially disabled. Excluding the financially disabled, there is a need for 12 intercity persons trips per day to Bakersfield.

Intra-city transit is provided by the City of Wasco Dial-A-Ride System. A radio and wheelchair lift equipped, 14 passenger bus is operated by the City from 8:00 A.M. to 5:00 P.M., Monday through Friday.

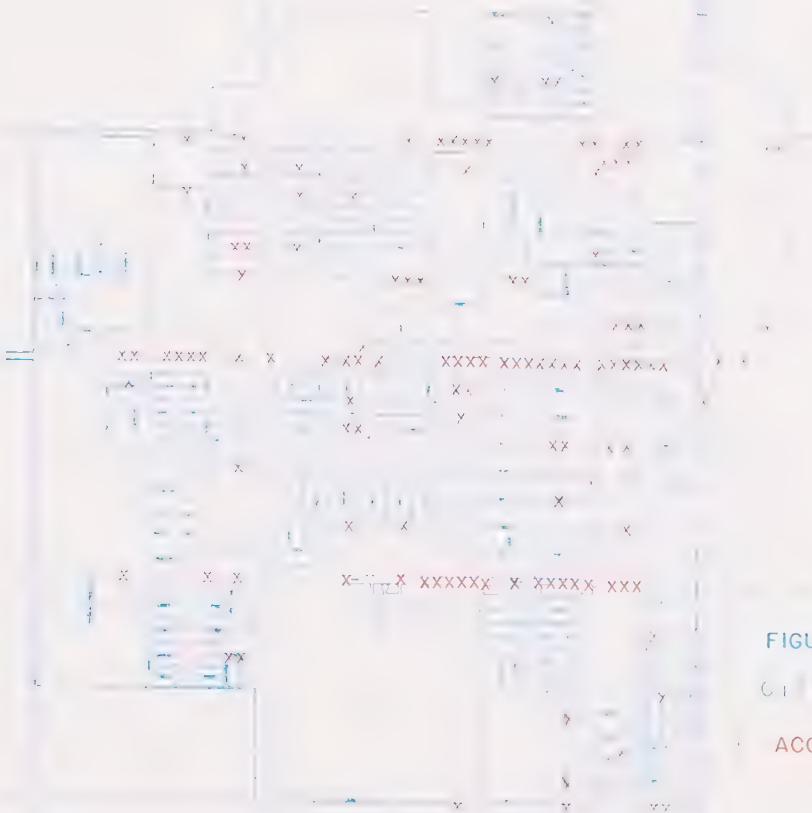


FIGURE 5

ROAD, RAIL AND AIR ACCIDENTS

ACCIDENTS 1986-87

During the 1986-87 fiscal year the System averaged 95 persons daily.

The Wasco Parks and Recreation District operates a vehicle for the senior citizens lunch program. The vehicle is also utilized by about 15 passengers per day for other senior citizens' and recreational programs.

The Cities of Wasco and Shafter operate an Inter-City bus system providing service to Bakersfield from Wasco and Shafter. The system utilizes a 14 passenger bus equipped with a wheelchair lift, and operates on Tuesday and Thursday making 2 runs a day, 1 in the morning and 1 in the afternoon. Passengers must be senior citizens or handicapped in order to ride. During the 1986-87 fiscal year the system averaged 90 passengers a month.

In addition to the above service the Orange Belt Stage Lines also provides inter-city transit service for individuals ineligible to utilize the City system. The Orange Belt services Wasco twice daily at (11:25 A.M. and 3:20 P.M.) from the Southeast corner of the 6th Street-Highway 43 ("F" Street) intersection.

2.4 Railroad

The Atchison, Topeka and Santa Fe Railroad Company operates a rail line located on the east side of the city. The track is utilized for the transportation of freight and passenger service. Wasco is a regularly scheduled stop for the California Intercity Rail Service provided by Amtrak.

2.5 Pedestrian Facilities

Pedestrian traffic is provided for by a system of sidewalks abutting streets. The sidewalks are protected by barrier-type concrete curbs and gutters. Curb and gutter is over 99 percent completed. However, sidewalks are only partially completed, resulting in potential safety hazards and inconvenience for pedestrians. Three pedestrian-related accidents were reported to the California Statewide Integrated Traffic Reporting System (SWITRS) in 1986-87.

2.6 Bicycle Facilities

The bicycle transportation system is provided by the total street system. According to SWITRS, there were four bicycle-related accidents in 1986-87. A complete systematic plan for bicycle circulation has not been prepared.

However, the city will be developing a belt park system which will circumnavigate the entire city. One of the functions of the belt park system will be to provide safe cycling, jogging, and pedestrian pathways. Belt park users will only infrequently interact with motor vehicle users. As the City continues to grow, the need will increase for the necessary infrastructure for bicycle accommodations.

2.7 Airports

Kern County operates County Airport No. 5 one mile north of the Highway 46/Palm Avenue intersection. The airport provides limited general aviation and agricultural aircraft support facilities. The nearest commercial airport is Meadows Field in Bakersfield, which provides intrastate commuter flights and connecting flights to international airports.

2.8 Pipeline and Conduits

Electric Utility service is provided to the City of Wasco as well as the adjacent areas by Pacific Gas and Electric Company (P.G.&E.). P.G.&E. has not quantitatively defined the present capacity or capacity utilization of their electrical generation, transmission and distribution

system in Wasco, but will adapt and expand the system for growth as necessary. Currently a 70-KV transmission line runs in the east-west direction along Highway 46 through the city. To the west 3 1/2 miles there is a major transmission line of 115-KV capacity and to the northeast outskirts of the city is an electrical sub-station of 70-KV capacity.

Natural gas is provided to the City by Southern California Gas Company (So.Cal). The major natural gas transmission line in the City is an 8 inch, high pressure (230PSI) main running north and south along Palm Avenue. This line is identified as a SoCal Gas Transmission Line 205. Expansion, improvement and reinforcement plans of the gas system are made on an "as needed" basis.

Several Shafter-Wasco Irrigation District water transmission lines pass through the City. These lines are for irrigation/agricultural purposes. The location, maximum size and capacity (cubic feet per second, cfs) of these lines are as follows:

a) Filburn Street (east-west)	60 inch -87.8 cfs
b) Poso Drive (east-west)	21 inch -12.2 cfs
c) 7th Street (east-west)	24 inch -17.1 cfs

d) 1320 ft. North of 46 (east-west)	27 inch	-8.5 cfs
e) Palm Avenue (north-south)	51 inch	-66.6 cfs
f) Annin Road (north-south)	15 inch	- 3.0 cfs
g) Mid Section Line of Sec.7, Twp 26S, R25E	15 inch	- 3.0 cfs

2.9 Storm Drainage

The City operates the storm drainage system for the community. In 1983 the City developed a Storm Drainage Master Plan (Strauss & Roberts). Most of the City utilizes a surface drainage system (gutter) which is directed into subsurface storm drain lines at key points throughout the City. The drainage system flows basically to the west along 7th Street, to holding ponds adjacent to the WPUD Sewer plant. There is also an emergency holding pond at Westside Park. Key storm drain lines are located along Beckes Street, Central Avenue, Poso Drive and Seventh Street.

Additional storm drain lines need to be constructed in order to accommodate growth in the north and south parts of the existing City. In addition, new holding ponds for storm drainage waters need to be constructed as the City grows and expands.

2.10 Water and Sewage

The water and sewage systems for the City are operated by the Wasco Public Utilities District (WPUD), and are described as follows:

Water: The WPUD currently operates seven wells and supplies domestic water consumption at a rate of about 2,930 acre feet annually (1982). Per capita local water consumption is slightly in excess of 250 gallons per day. The WPUD does not foresee any significant problems in continuing to supply adequate levels of domestic water service to the Planning Area.

The major trunklines are 8" in diameter and are located under most arterial and collector streets.

Sewer/Wastewater Treatment Facilities: The WPUD currently operates a 2.2 mgd secondary treatment plan with trickling filters 2 miles west of the urbanized portion of the community. The treatment plan and related disposal facilities occupy a site of approximately 800 acres. At present, the plant has adequate capacity to handle domestic

waste flows, both for current and projected population levels. The trunkline system consists of 24" and 15" lines flowing westward under 7th Street. Feeding into these trunklines are a series of 8, 10 and 12 inch lines. As in the case of the water system, these lines are primarily located under the City's arterial and collector streets.

2.11 Parking

Parking is accommodated by off-street spaces provided by private commercial, residential and industrial businesses. Public parking is provided by on-street spaces and at several municipal parking lots located in the central business core.

The demand for parking for specific businesses is dependent on the traffic generated by each land use, including seasonal variations in land use activity, and is regulated by the City of Wasco Zoning Ordinance parking regulations.

2.12 Land Use Trends

The location and distribution of arterials, collectors and local streets is dependent on the location and traffic

generation of different land uses in the urban area. Each type of land use generates a different quantity of traffic trips per acre; therefore, assignment of the appropriate frequency (one-half mile, one-quarter mile, etc.) of each function roadway classification to an area depends on the traffic generation characteristics of each area. Figure 6 shows the land use distribution designated in the Land Use Element of the General Plan. Table 1 shows the recommended arterial and collector grid frequency rated for various land uses in the City of Wasco.

2.13 Terminals

There is an existing Amtrak station located adjacent to the A.T.&S.F. railroad at the east end of 7th Street. Wasco is a regularly scheduled stop for the Amtrak system.

In addition there is under construction a privately operated coal transfer terminal. When fully operational this facility will off load, store and ship via trucks approximately 900,000 tons of coal annually. This facility is located in the south east corner of the City between "J" Street and the A.T.&S.F. railroad.

LEGEND

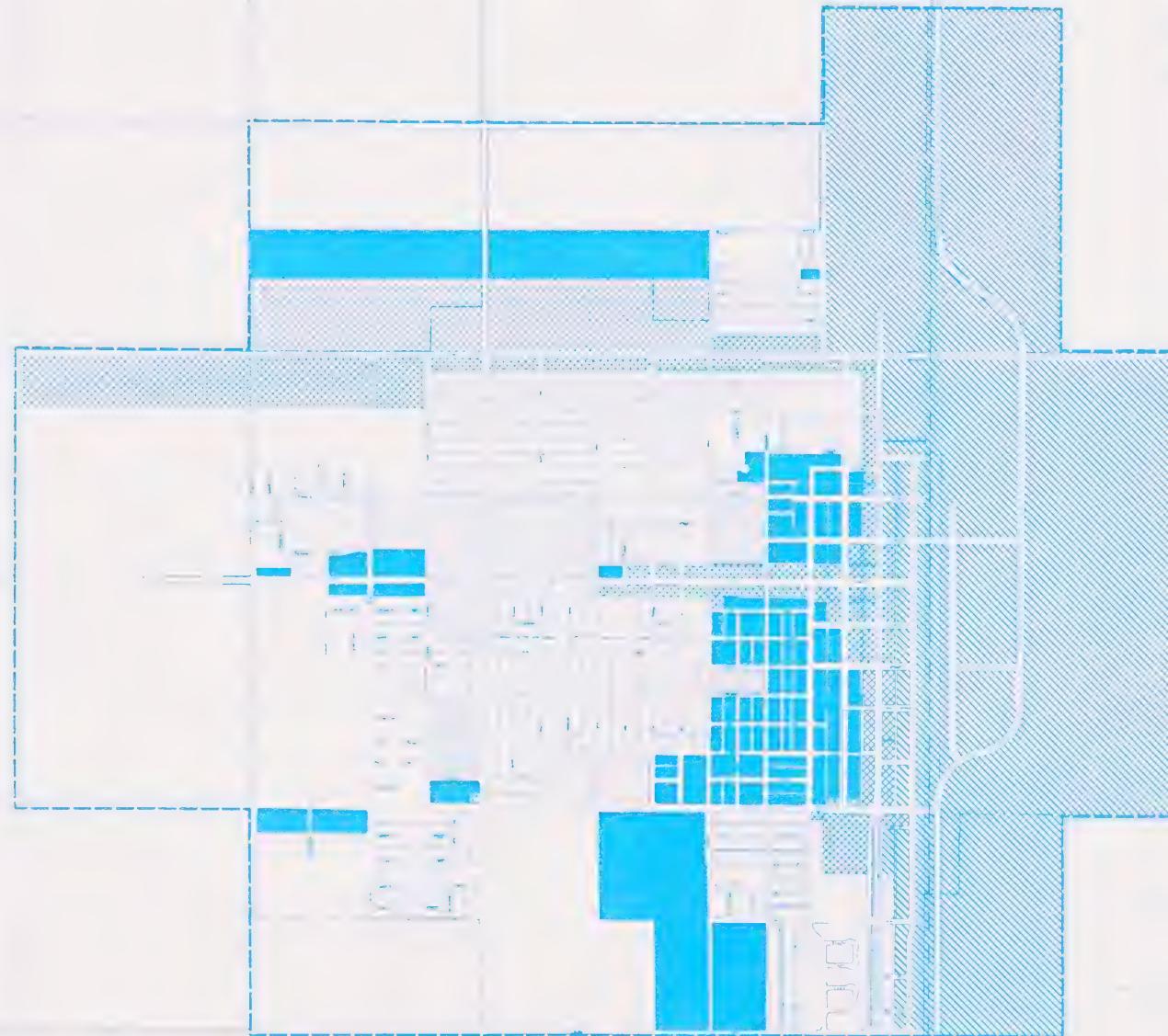


TABLE 1

CITY OF WASCO

TRAFFIC GENERATION AND GRID FREQUENCY

BY LAND USE

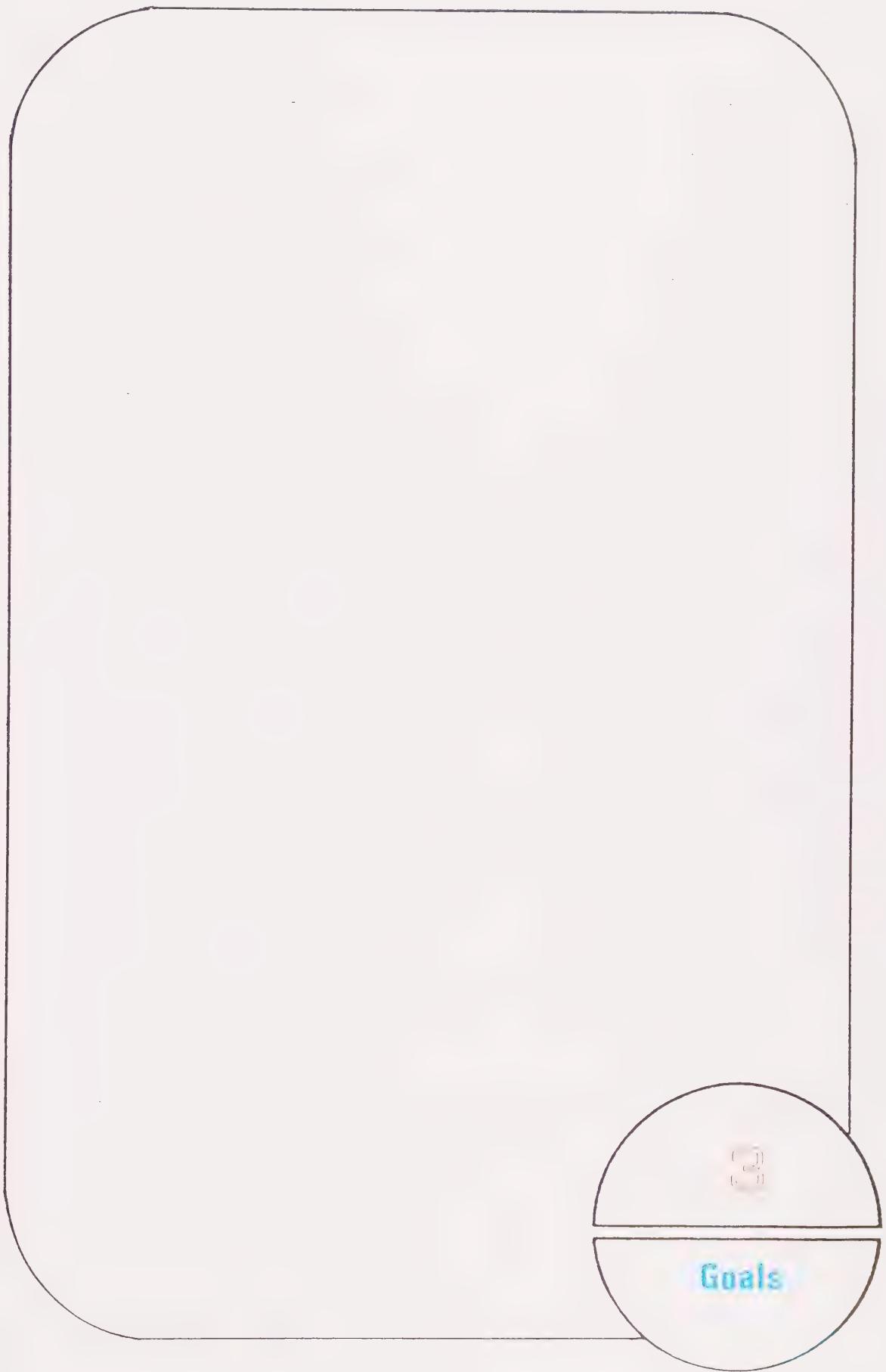
Type of Land Use	ADT per acre	Arterial grid frequency (miles)	Collector grid frequency (miles)
Low Density Residential (1 to 13 units per acre)	60	1	1/2
Medium Density Residential (14 to 25 units per acre)	150	1	1/4
Commercial	1200	1/2	1/4
Industrial (light)	50	1	1/2
<u>Public Facilities</u>			
City park	60	1	1/2
High school	200	1/2	1/4
Elementary school	90	1	1/2
Civic center	450	1/2	1/4

Source: QUAD Consultants, 1982.

Institute of Transportation Engineers. 1978.

Transportation and Traffic Engineering Handbook

There is an identified need for the parking of owner-operated trucks. Currently these vehicles are being parked throughout the city in residential as well as commercial and industrial areas.

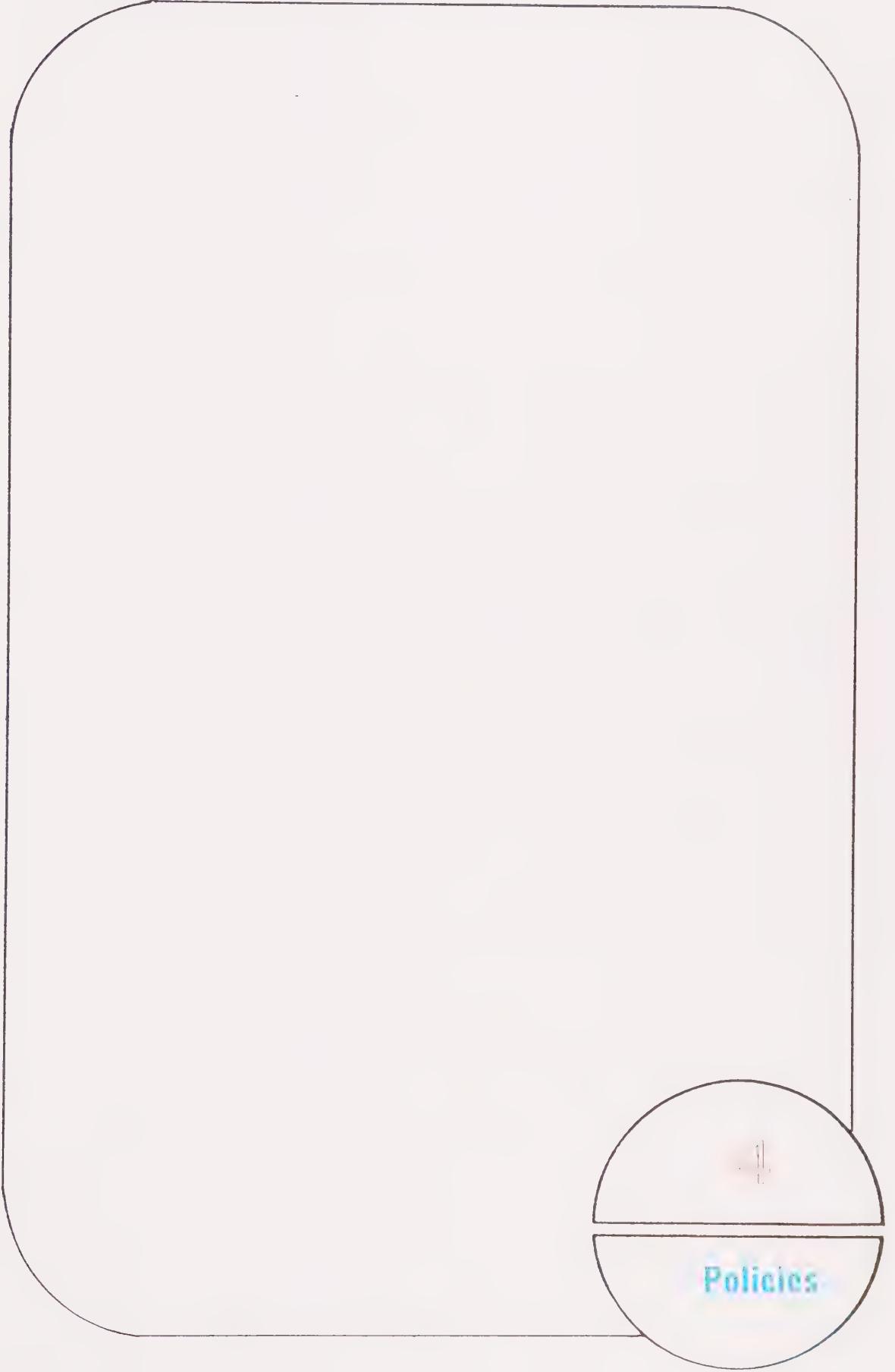


3.0 Goals

In order to meet the community's identified needs, the following goals have been established for the development and maintenance of the community's circulation system:

- * Provide a coordinated traffic circulation system for motor vehicles and pedestrians, ensuring safe and efficient access to employment, education, commerce and recreation without significant interference to adjacent land uses.
- * Ensuring adequate access by emergency vehicles to all areas of the community.
- * Facilitate and encourage adequate parking throughout the community, including commercial areas.
- * Encourage energy efficient and low- or non-pollutant generating modes of transportation and circulation system use.
- * Improve existing programs for maintaining and upgrading existing streets and for the construction of street improvements.

- * Develop a bicycle circulation plan and system to accommodate cycle users.
- * Encourage the development of secure truck parking facilities in the industrial area of the City.



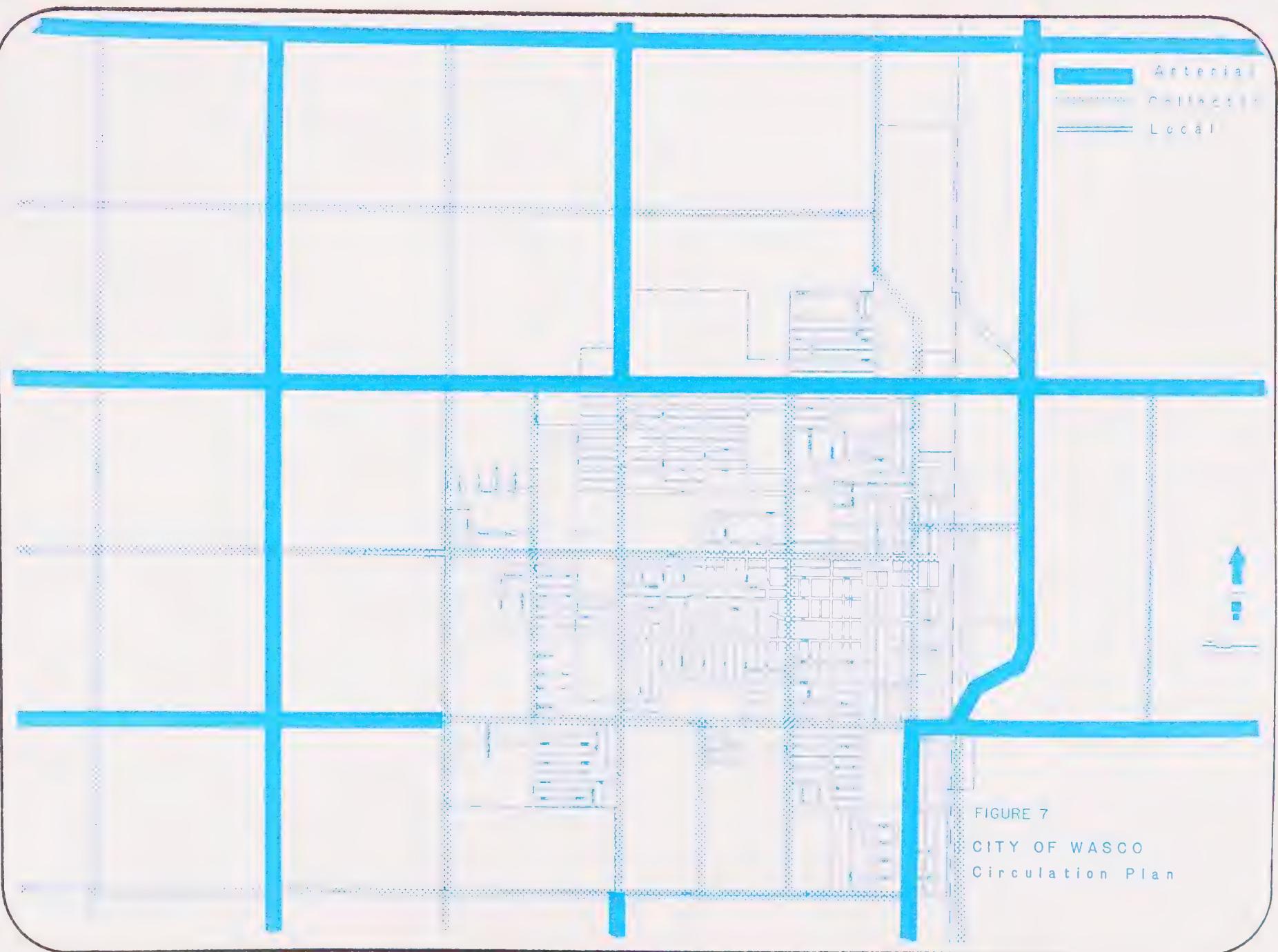
Policies

4.0 Policies

Figure 7 shows the street network circulation plan and functional street classification for the Wasco urban area. The following policies are adopted to guide the development of the circulation system.

4.1 Street System

- * Street maintenance, upgrading and construction programs as reflected in Table 2 shall be continued.
- * The right-of-way for the circulation system shall be developed and dedicated to the appropriate extent and width in undeveloped areas when development or division of property occurs.
- * Street widening and right-of-way acquisition in existing developed areas should be undertaken when required for obvious safety reasons, such as trends toward higher accident rates or marked decline in the overall levels of service.
- * Established truck routes as designated on Figure 8 shall be maintained. No new truck routes shall be allowed.



* Collector streets should provide access to traffic generating land uses such as schools, hospitals and recreation areas, but should not extend the entire length of the City in such a manner that would encourage use by through and cross-town traffic. "F" Street shall be extended from its existing alignment north of Highway 46 to connect with Annin.

TABLE 2

Street Improvements

Street	Phase 1 Upgrade	Phase 2 Widen	Phase 3 New Construction
Local	10.04 miles	N/A miles	N/A miles
Collector	1.92 miles	5.91 miles	3.85 miles
Arterial	<u>1.43 miles</u>	<u>4.18 miles</u>	<u>2.32 miles</u>
Total	13.39 miles	10.09 miles	6.17 miles

- W A S C O -

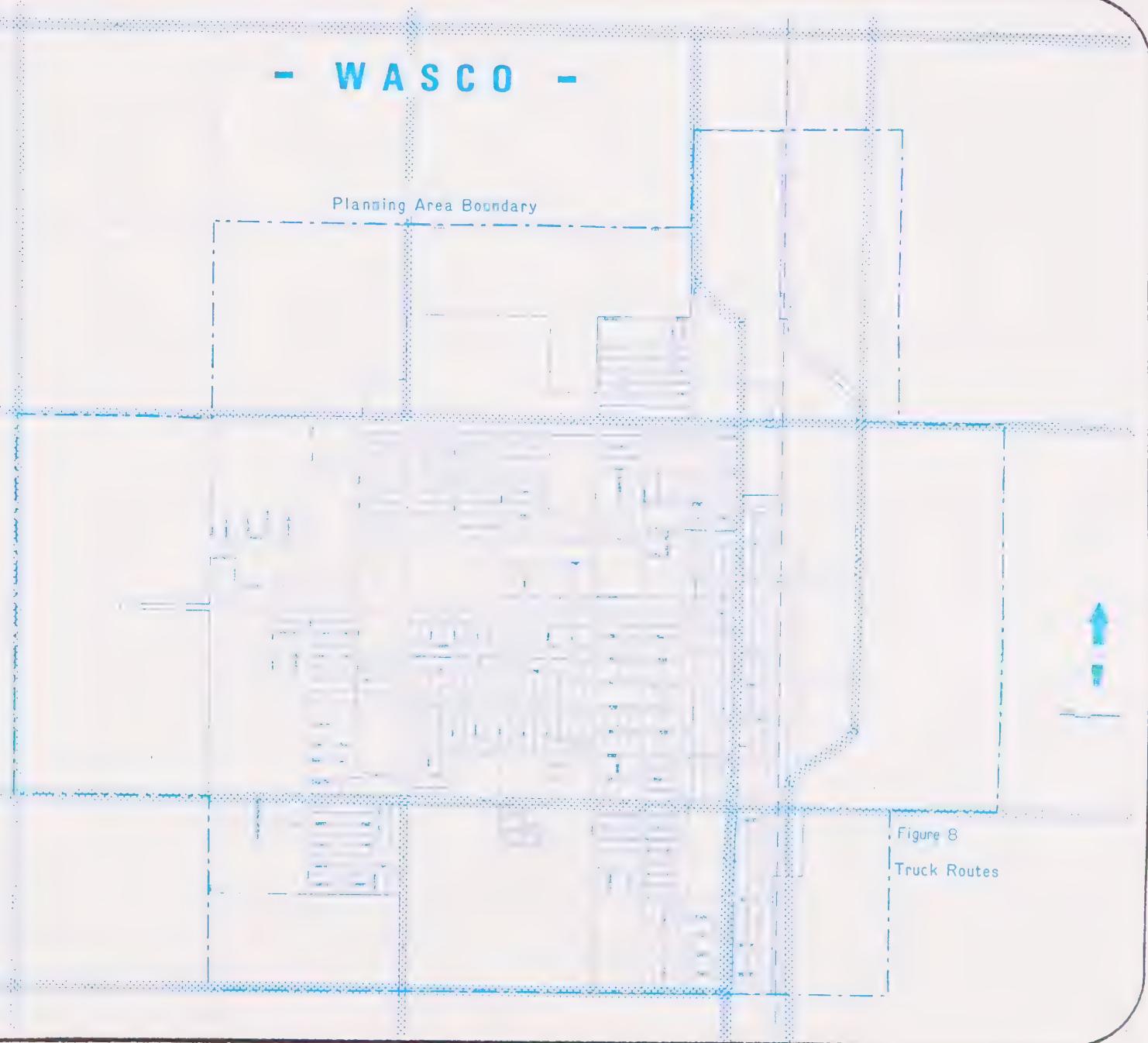


Figure 8
Truck Routes

- * Arterials should be designed to provide cross-town, through-town and inter-city traffic. Access to abutting land uses should be limited, where possible, to facilitate traffic flow and reduce potential traffic conflicts and hazards. They should not be located adjacent to sensitive land uses nor bisect neighborhoods.
- * Arterial streets should only intersect with other arterial streets and collectors. Local streets should not be permitted to intersect with arterials. Both Filburn Street (from Highway 43 to Central Avenue) and Central Avenue (from Filburn Street to Highway 46) are collectors which shall be developed to Arterial Standards. Also, Poso Drive is an arterial which (from "G" Street to Central Avenue) shall be developed to a collector standard.
- * Local streets shall be designed to limit high-speed and through traffic.
- * Where possible, direct access (driveways) of residential development to arterial and collector streets shall be prohibited.

- * An effective program, including financing, shall be established to develop and maintain truck (tractor-trailer) parking within the industrial zones of the city.
- * Ordinances prohibiting overnight truck (tractor-trailer) parking other than in authorized areas of the city shall be developed.

4.2 Transit

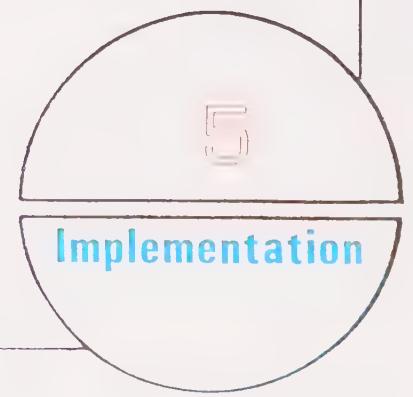
- * Cost-effective, non-polluting forms of transportation such as bus and rail transit shall be encouraged.
- * The City shall endeavor to meet the needs of the mobility limited population and to encourage, in general, rapid transit and para-transit in the City of Wasco.

4.3 Railroad Operations

- * The City shall attempt to preserve the current status of the existing rail system, including passenger service.

4.4 Bicycle and Pedestrian Traffic

- * All new developments shall provide sidewalks (in industrial, commercial and residential areas) to facilitate pedestrian traffic.
- * In existing developed areas where sidewalks do not exist, the City shall continue to support existing programs and pursue new programs for sidewalk construction. Bicycle accidents shall continue to be monitored and bicycle paths shall be established upon need.
- * Design bicycle and pedestrian paths so that interaction with vehicular traffic is minimized.
- * Establish an effective program including financing for construction of and maintaining bicycle paths and sidewalks in the City of Wasco.
- * Required provision for safe bicycle circulation in all new development including bicycle parking facilities and internal bicycle and pedestrian routes.



5.0 Implementation of Circulation Plan

- * The Circulation Plan establishes the general location and extent of major thoroughfares in Wasco. Major objectives of the plan include concentrating through traffic on arterial and collector roads and coordinating land use and circulation planning to reduce the number and length of automobile trips required to obtain needed goods and services.
- * The plan illustrates the location of existing and proposed arterial and collector streets and existing local streets. Arterial and collector streets are used to provide safe and efficient movement between major employment destinations and residential neighborhoods. Arterial streets are generally located at one-mile intervals along section lines, with collector streets located along mid-section lines. Because of their spacing and function, arterial and collector streets tend to define individual neighborhoods within the city.

5.1 Street Improvement

* The Street Improvement Phase Plan establishes priorities for improving street paving conditions within the City. It is based upon an assessment of local transportation needs conducted in 1985 and a reassessment in 1988 by Quad Engineering which emphasized the current condition of streets and roads, and the need for improvements and maintenance. Actual improvement of streets should be coordinated with capital improvements funding in order to optimize street improvement expenditures. Streets not included within the plan are currently not the responsibility of the City to maintain or are in satisfactory condition. The Street Improvement Summary (Table 2) presents total miles of streets needing improvement by type of street within each phase.

5.2 Bicycle Circulation Plan

* The Bicycle Circulation Plan presents a phased approach to developing a City-wide system of bikeways. The objective of the plan will be to develop a comprehensive north-south and east-west system of direct access routes to and from major destinations. Where possible, bikeways are proposed to be separated from streets. It is anticipated that a supplementary network of neighborhood trails will be developed and coordinated with the routes shown in the Bicycle Circulation Plan. Segments of this supplementary system will be developed as an integral part of individual subdivisions either along the local streets or within the project's internal open space.

5.3 Implementation Measures

The following will be pursued by the City of Wasco as part of general effort to attain the goals and policies of this element.

- * Promote car and van pooling.
- * Continued participation in area transit planning.
- * Development of an updated Bicycle Circulation Plan.
- * Development of a Street Improvement Plan.
- * Development of a secured tractor-trailer parking lot for overnight parking.
- * Coordinate utilities development along arterial and collector streets with the appropriate utility agency.
- * Where appropriate, coordinate the development of Arterial and Collector Streets with the Kern County Circulation Element.

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